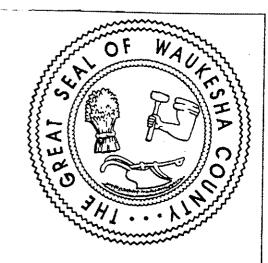
Attachment 7 Waukesha County Solid Waste Management Plan



Waukesha County Solid Waste Management Plan 1994—2014



March 1994

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RMT

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TABLE OF CONTENTS

| | PAGE I | NO. |
|------|--|-------|
| EXEC | UTIVE SUMMARY I | ES-1 |
| I. | INTRODUCTION | I-1 |
| | A. PURPOSE OF THE PLAN | |
| | B. BACKGROUND | I-1 |
| | C. COUNTY SOLID WASTE MANAGEMENT ORGANIZATION | I-2 |
| | D. PUBLIC PARTICIPATION | I-4 |
| | 1. Preliminary Goals | I-4 |
| | 2. Public Input Meetings | I-4 |
| | E. LEGAL FRAMEWORK 1. County Authority | I-5 |
| | 1. County Authority | I-5 |
| | 2. Responsible Unit Authority and Responsibility Under Chapter | |
| | 159, Wisconsin Statutes | I-8 |
| | 3. County Ordinances | I-11 |
| ٠ | F. DEMOGRAPHIC CHARACTERISTICS | I-11 |
| П. | UPDATE LOCAL CONDITIONS | II-1 |
| | A. MUNICIPAL DATABASE | II-1 |
| | 1. Data Development and Sources | II-1 |
| | 2. Observations on the Database | II-1 |
| | B. WASTE HAULERS | II-5 |
| m. | EXISTING FACILITIES, MANAGEMENT, AND TRANSPORT | III-1 |
| | A. EXISTING FACILITIES AND PROGRAMS | III-1 |
| | 1. Landfills | III-1 |
| | 2. Recycling | II-10 |
| | 3. Yard Waste | II-17 |
| | | II-20 |
| | 5. Public Education | II-23 |
| | B. SURROUNDING COUNTIES/COMMUNITIES | II-25 |
| | | II-25 |
| | 2. Communications Among Counties/Communities | 11-28 |
| | C. COLLECTION AND WASTE TRANSPORT METHODS | |
| | | |
| IV. | ESTIMATE OF WASTE STREAM AND RECYCLABLES | |
| | QUANTIFICATION AND COMPOSITION | IV-1 |
| | A. WASTE QUANTITY ESTIMATION | IV-1 |
| | 1. Historical Information | IV-1 |
| | 2. Waste Generation Studies | IV-2 |
| | 3. Landfill and Other Facility Tonnage Estimates | IV-3 |
| | 4. Hauler Survey Information on Residential Solid Waste | IV-4 |
| | 5. Summary and Waste Quantity Estimates | IV-4 |
| | 6. Waste Quantity Projections | IV-7 |
| | B. WASTE COMPOSITION | IV-7 |
| | 1. Residential | IV-7 |

TABLE OF CONTENTS

(Continued)

| | | 2. | Commercial/Industrial | IV-9 |
|------|------|-----------------|--|--------|
| | | 3. | Waste Composition After Material Bans | IV-14 |
| | C. | RECY | YCLABLES QUANTITIES | IV-14 |
| | | 1. | Residential Recyclables | IV-14 |
| | | 2. | Commercial Recyclables | IV-20 |
| | | 3. | Recyclables Projections | IV-22 |
| | | | | |
| V. | REC | YCLAB | BLES MARKET ANALYSIS | . V-1 |
| | Α. | | 1 MATERIALS | |
| | | 1. | Newsprint | . V-2 |
| | | 2. | Glass Containers | . V-2 |
| | | 3. | Metal Containers | . V-5 |
| | | 4. | Plastics | . V-5 |
| | В. | TIER | 2 MATERIALS | |
| | | 1. | Additional Paper Products | |
| | | 2. | Additional Plastics | |
| | | 3. | Textiles | |
| | | 4. | Waste Tires | |
| | C. | TIER | 3 MATERIALS | |
| | | 1. | Yard Waste Compost/MSW Compost | |
| | | 2. | Construction and Demolition (C&D) Wastes | |
| | D. | PROC | CUREMENT PROGRAMS AND OPPORTUNITIES | |
| | | 1. | General Overview | |
| | | 2. | Procurement by Waukesha County Manufacturers | |
| | | 3. | Opportunities for Additional Procurement | V-63 |
| VI. | SOLI | TT 37/A C | STE MANAGEMENT OPTIONS AND | |
| ¥ 1. | | | ENDATIONS | VI_1 |
| | A. | | TE REDUCTION | |
| | r. | 1. | Introduction | |
| | | 2. | Strategies for Promoting Waste Reduction | |
| | | 3. | Goals and Measurement | |
| | | 3. 4. | | VI-29 |
| ••• | В. | - | | VI-31 |
| | ъ. | 1. | | VI-31 |
| | | 2. | | VI-33 |
| | | 3. | | VI-35 |
| | | <i>3.</i> 4. | | VI-35 |
| | | 5. | | VI-38 |
| | | 6. | | VI-50 |
| | | 7. | Waukesha County Processing Facility Role and Recommendations | |
| | | 8. | Waukesha County Role and Recommendations for Recyclables | 4 T.OD |
| | | 0. | | VI-65 |
| | | 9. | | VI-67 |
| | | <i>-</i> • | CIGHIGHO ACCOMMINICATION | * * U/ |

TABLE OF CONTENTS

(Continued)

| 1.IntroductionVI-1782.Quantifying C&D WasteVI-1823.Typical GeneratorsVI-1824.C&D Waste CompositionVI-182 | | PA | GE NO. |
|---|------------|--|-------------------|
| 1. | C | YARD WASTE MANAGEMENT | . VI-68 |
| 2. Source Reduction VI-68 3. Collection of Yard Waste VI-79 4. Yard Waste Processing VI-81 5. Land Application VI-92 6. Marketing and Utilization VI-95 7. Facility Siting VI-97 8. Waukesha County Role and Recommendations VI-98 D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-101 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-125 3. Changes Since County Role | O . | | |
| 3. Collection of Yard Waste | | | |
| 4. Yard Waste Processing VI-81 5. Land Application VI-92 6. Marketing and Utilization VI-95 7. Facility Siting VI-97 8. Waukesha County Role and Recommendations VI-98 D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Process VI-104 4. Odor Control VI-116 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-116 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-125 2. County Project Decision VI-125 3. Changes Since County Role and Recommendations VI-135 4. | | | |
| 5. Land Application VI-92 6. Marketing and Utilization VI-95 7. Facility Siting VI-97 8. Waukesha County Role and Recommendations VI-98 D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-125 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-135 4. Waukesha County Role and Recommendations VI-135 5. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-140 4. Current Landfill Regulations VI-145 | | | 1. × 3. |
| 6. Marketing and Utilization VI-95 7. Facility Siting VI-97 8. Waukesha County Role and Recommendations VI-98 D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-113 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-122 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-125 4. Waukesha County Role and Recommendations VI-135 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. C&D Waste Quantity VI-140 | | | - |
| 7. Facility Siting V1-97 8. Waukesha County Role and Recommendations VI-98 D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-116 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-125 4. Waukesha County Role and Recommendations VI-135 5. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-135 4. County and Regional Capacity, Status, and Costs VI-136 5. Waukesha County Role and Recommendations VI-146 6. HOUSEHOLD HAZARDOUS WASTE< | | | |
| 8. Waukesha County Role and Recommendations VI-98 D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-116 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-125 4. Waukesha County Role and Recommendations VI-135 5. Introduction VI-135 6. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. | | | |
| D. MSW COMPOSTING VI-101 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-118 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 9. Waukesha County Role and Recommendations VI-121 1. Historical Overview VI-122 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-135 5. Introduction VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-140 3. C&D Waste Accounty Role and Recommendations VI-142 <td></td> <td>7. Facility Stuffs</td> <td>. V."7/ 3/1 00</td> | | 7. Facility Stuffs | . V."7/ 3/1 00 |
| 1. Background VI-101 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 9. Waukesha County Role and Recommendations VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-125 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. Caunty and Regional Capacity, Status, and Costs VI-142 <td>T</td> <td></td> <td></td> | T | | |
| 2. Description of Composting Process VI-104 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-125 4. Waukesha County Role and Recommendations VI-135 5. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-1 | Ŋ. | MSW COMPOSITING | . VI-1UI |
| 3. Types of Composting Technologies VI-105 4. Odor Control VI-110 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-135 5. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-140 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education | | | |
| 4. Odor Control VI-110 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-125 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-135 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-144 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162< | | 2. Description of Composting Process | . VI-104 |
| 5. Other Environmental Factors VI-113 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-135 4. Waukesha County Role and Recommendations VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-135 4. County and Regional Capacity, Status, and Costs VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-150 5. Local HHW Studies VI-150 6. Public an | | | |
| 6. Recyclables Sorting Potential VI-116 7. Source-Separated Organics Composting VI-116 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-136 4. Waukesha County Role and Recommendations VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-140 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-158 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCL | | | |
| 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 G. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-158 7. Waukesha County Role and Recommendations VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 | | 5. Other Environmental Factors | . VI-113 |
| 8. Owner/Operator Options VI-118 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 G. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-158 7. Waukesha County Role and Recommendations VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 | | 6. Recyclables Sorting Potential | . VI-116 |
| 9. Waukesha County Role and Recommendations VI-118 E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-158 6. Public and Retail Education VI-158 7. Waukesha County Role and Recommendations VI-178 1. Introduction VI-178 < | | 7. Source-Separated Organics Composting | . VI-116 |
| E. WASTE-TO-ENERGY VI-121 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-157 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-178 1. Introduction VI-178 2. Qu | | | |
| 1. Historical Overview VI-121 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-168 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | | |
| 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-145 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-182 3. Typical Generators VI-182 4. <td< td=""><td>E.</td><td>WASTE-TO-ENERGY</td><td>. VI-121</td></td<> | E. | WASTE-TO-ENERGY | . VI-121 |
| 2. County Project Decision VI-125 3. Changes Since County Board Decision VI-126 4. Waukesha County Role and Recommendations VI-134 F. LANDFILL NEEDS VI-135 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-145 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-182 3. Typical Generators VI-182 4. <td< td=""><td></td><td>1. Historical Overview</td><td>. VI-121</td></td<> | | 1. Historical Overview | . VI-121 |
| 4. Waukesha County Role and Recommendations. VI-134 F. LANDFILL NEEDS . VI-135 1. Introduction . VI-135 2. Current Landfill Regulations . VI-135 3. C&D Waste Landfills . VI-140 4. County and Regional Capacity, Status, and Costs . VI-142 5. Waukesha County Role and Recommendations . VI-142 6. HOUSEHOLD HAZARDOUS WASTE . VI-145 1. Wisconsin HHW Regulations . VI-145 2. Waste Quantity . VI-145 3. HHW Collection Options . VI-150 4. Siting Considerations . VI-157 5. Local HHW Studies . VI-158 6. Public and Retail Education . VI-158 6. Public and Retail Education . VI-173 H. C&D WASTE RECYCLING . VI-178 1. Introduction . VI-178 2. Quantifying C&D Waste . VI-182 3. Typical Generators . VI-182 4. C&D Waste Composition . VI-182 | | 2 County Project Decision | . VI-125 |
| 4. Waukesha County Role and Recommendations. VI-134 F. LANDFILL NEEDS . VI-135 1. Introduction . VI-135 2. Current Landfill Regulations . VI-135 3. C&D Waste Landfills . VI-140 4. County and Regional Capacity, Status, and Costs . VI-142 5. Waukesha County Role and Recommendations . VI-142 6. HOUSEHOLD HAZARDOUS WASTE . VI-145 1. Wisconsin HHW Regulations . VI-145 2. Waste Quantity . VI-145 3. HHW Collection Options . VI-150 4. Siting Considerations . VI-157 5. Local HHW Studies . VI-158 6. Public and Retail Education . VI-158 6. Public and Retail Education . VI-173 H. C&D WASTE RECYCLING . VI-178 1. Introduction . VI-178 2. Quantifying C&D Waste . VI-182 3. Typical Generators . VI-182 4. C&D Waste Composition . VI-182 | | 3. Changes Since County Board Decision | . VI-126 |
| 1. Introduction VI-135 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 6. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 4. Waukesha County Role and Recommendations | . VI-134 |
| 2. Current Landfill Regulations VI-135 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 G. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | F. | | |
| 3. C&D Waste Landfills VI-140 4. County and Regional Capacity, Status, and Costs VI-142 5. Waukesha County Role and Recommendations VI-142 G. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | | |
| 4. County and Regional Capacity, Status, and Costs 5. Waukesha County Role and Recommendations VI-142 G. HOUSEHOLD HAZARDOUS WASTE 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | | |
| 5. Waukesha County Role and Recommendations VI-142 G. HOUSEHOLD HAZARDOUS WASTE VI-145 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 3. C&D Waste Landfills | . VI-140 |
| G. HOUSEHOLD HAZARDOUS WASTE 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition | | 4. County and Regional Capacity, Status, and Costs | . VI-142 |
| 1. Wisconsin HHW Regulations VI-145 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 5. Waukesha County Role and Recommendations | . VI-142 |
| 2. Waste Quantity VI-148 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | G. | HOUSEHOLD HAZARDOUS WASTE | . VI-145 |
| 3. HHW Collection Options VI-150 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | | |
| 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 2. Waste Quantity | . VI-148 |
| 4. Siting Considerations VI-157 5. Local HHW Studies VI-158 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 3. HHW Collection Options | . VI-150 |
| 6. Public and Retail Education VI-162 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 4. Siting Considerations | . VI-157 |
| 7. Waukesha County Role and Recommendations VI-173 H. C&D WASTE RECYCLING VI-178 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 5. Local HHW Studies | . VI-158 |
| H. C&D WASTE RECYCLING 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | | |
| H. C&D WASTE RECYCLING 1. Introduction VI-178 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 7. Waukesha County Role and Recommendations | . VI-173 |
| 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | H. | | |
| 2. Quantifying C&D Waste VI-182 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | 1. Introduction | VI-178 |
| 3. Typical Generators VI-182 4. C&D Waste Composition VI-182 | | | |
| 4. C&D Waste Composition VI-182 | | | |
| | | | |
| J. Comanimation recitian | | 5. Contamination Potential | |

TABLE OF CONTENTS (Continued)

| | | | | PAG | E NO. |
|-----|------|-------|--|-----|---------|
| | | 6. | C&D Waste Management Systems | | VI-187 |
| | | 7. | C&D Waste Recycling System Costs | | VI-207 |
| | | 8. | Waukesha County Role and Recommendations | | |
| vn. | SOLI | D WAS | TE MANAGEMENT GOALS AND RECOMMENDED | | |
| | ACTI | ON PL | AN | | . VII-1 |
| | Α. | INTRO | DDUCTION | | . VII-1 |
| | B. | INTEC | GRATED SOLID WASTE MANAGEMENT GOALS, | | |
| | | ACTIO | ONS, AND IMPLEMENTATION SCHEDULE | | . VII-4 |
| | | 1. | Waste Reduction | | |
| | | 2. | Recycling | | |
| | | 3. | Yard Waste Processing | | |
| | | 4. | MSW Composting | | |
| | | 5. / | Waste-To-Energy | | |
| • | | 6.√ | Landfill | | |
| | | 7. | Household Hazardous Waste | | |
| | | 8. | C&D Waste Recycling/Reduction | | |
| vm. | ALLO | CATIO | ON OF STAFF HOURS AND PROGRAM MONITORING | G | |
| | PLAN | [| | | VIII-1 |
| | Α. | | DDUCTION | | |
| | В. | | FING IMPACTS | | |
| | - | 1. | Existing level of activity and Staffing | | |
| | | 2. | Staffing for the Five-Year Action Plan | | |
| | C. | | TORING PLAN | | |
| | | 1. | Annual Progress Toward Percentage Goals | | |
| | | 2. | Individual Program Monitoring | | |

III. EXISTING FACILITIES, MANAGEMENT, AND TRANSPORT

The purpose of this section is to review and assemble information pertaining to current waste management activities within Waukesha County and related activities within the region.

A. EXISTING FACILITIES AND PROGRAMS

1. Landfills

a. Waste Management of North America Landfills

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Waste Management of North America operates six landfills within the State of Wisconsin. The Parkview Landfill is located in Waukesha County. The Metro Landfill is located in Milwaukee County. These two landfills are reported by Waste Management to receive wastes from the Waukesha County area. The other four landfills, which could receive wastes from Waukesha County, if necessary, include Mallard Ridge in Walworth County; Ridgeview in Manitowoc County; Valley Trail in Green County; and Pheasant Run in Kenosha County (would require local approval). Generally, all waste collected by Waste Management hauling companies is brought to Waste Management owned and operated landfills. The following is summary information on both Parkview and Metro Landfills.

(1) Parkview

The Parkview Landfill is part of an 800-acre waste management complex owned and operated by Waste Management that has been the historic site of two previously completed landfills (Boundary Corporation Landfill and Omega Hills Landfill). The complex is also a center for Waste Management hauling operations; a yard waste management facility; commercial recyclables processing in a newly constructed commercial materials recovery facility (COMMRF); a medical waste incinerator; a leachate pre-treatment facility; a landfill gas collection and electrical generation facility; and a chemical waste disposal facility. Information regarding the landfill operation was provided by Mr. Donald Otter, the Regional Landfill Manager for Waste Management of North America. The facility is located in Menomonee Falls in the northeast corner of Waukesha County.

Landfill operations have occurred at this complex over the course of several years. The Omega Hills Landfill located in Washington County was an 82-acre site that lasted approximately 21 years. The Omega Hills site has been declared a State Superfund Site and some remediation activities are underway. This landfill was originally constructed prior to requirements for landfill liners and leachate collection. Subsequently, as part of remediation, a leachate collection and a landfill gas extraction system have been installed. In addition, slurry walls and a groundwater pump-out operation have been installed. To date, Waste Management is covering the costs of this remediation activity without seeking cost recovery from past users.

Waste Management uses approximately 1 million cubic yards of landfill air space per year at Parkview. This figure has been fairly consistent over time, although various materials have been banned from landfill disposal recently.

Following the completion of Omega Hills, the Parkview Landfill was sited and permitted adjacent to Omega Hills, directly to the south. Construction took place in 1989, with filling beginning in the fall of 1989. The site included 42 acres with approximately 5 million cubic yards of air space capacity. Parkview is now nearing completion and is projected to be full in early 1994.

Waste Management began to implement an expansion area approximately five to seven years prior to the completion of the existing landfill. Thus, Waste Management had started the permitting of the "Orchard Ridge Landfill" adjacent to Parkview, which has an approximate 72-acre base with an estimated capacity of 10 million cubic yards. The Orchard Ridge Landfill received approval by the Wisconsin Department of Natural Resource (WDNR) and began construction in the fall of 1993. At the present use of approximately 1 million cubic yards of air space per year, the Orchard Ridge site would last an estimated ten years.

In addition, as noted, Waste Management's site and complex consists of approximately 800 acres, with Waste Management owning the property in the section all the way south to Brown Deer Road. The additional acres will provide buffer for potential future expansion areas. At least 150 acres has been identified as potentially permittable for landfill space on land owned adjacent to the existing landfills. If a 72-acre site is estimated to last ten years, then the 150 acres could be projected to last an additional 20 years for the equivalent of 30 years of landfill capacity (at 1 million cubic yards per year) remaining at the complex.

Municipal, commercial, and industrial solid waste are accepted at the landfill. According to estimates supplied by Waste Management, approximately 20 to 25 percent of the tonnage arriving at the site comes from Waukesha County. Based on calculations of 1 million cubic yards per year with an average in-place density of 1,200 pounds of solid waste per cubic yard, this projects to an approximate range of 120,000 to 150,000 tons per year of solid waste from Waukesha County.

The Parkview Landfill has a liner system consisting of several different layers of clays, geotextile fabrics, and drainage layers. The three compacted clay liners are intended to contain wastes within the facility. All the liners will be extended up the side slopes of the facility and connected with a final clay cap. The environmental protection system at the site also includes a leachate collection system and diversion of rainfall away from the landfill into a stormwater runoff and retention basin. A groundwater monitoring system including 64 groundwater monitoring wells, and a landfill gas collection system will be constructed to control methane gas at the time of completion of the landfill. The Orchard Ridge Landfill will include a composite liner and a composite cap. A composite liner and cap is constructed of both a clay and a synthetic plastic liner.

The current tip fees for solid waste at the Parkview Landfill depend on the type of waste and type of delivery vehicle. Contract rates are available for volumes or negotiated with haulers. The average rate was indicated to be approximately \$30 per ton. Waste Management projects disposal costs at the landfill to escalate, generally in the range of 5 to 10 percent per year.

(2) Metro Landfill

The Metro Landfill is located in southwest Milwaukee County just across the border from Waukesha County. At this location, Waste Management owns approximately 600 acres with 108 of those acres currently permitted for landfill use. This site has also been developed in stages over a several-year period.

The "North 60" (60 acres) was the oldest landfill area, having started in approximately 1952. This area had no liner, but it was stated by the facility contacts (Raymond Seegers, P.E. and James Dunham, along with Mr. Donald Otter) to have more than 200 feet of clay under the site. No part of the site has been declared a Superfund site and there are no remediation measures currently under way. Groundwater flows inward (an inward gradient) and, therefore, is a zone of saturation site. The facility has a leachate extraction and collection system. The leachate is extracted and piped into the Milwaukee Metropolitan Sewer District.

Presently Waste Management is in Phase IV of the filling process for the "South 40" (40 acres). It was estimated that there is 4.5 million cubic yards of air space left, with about a five-year life expectancy. This facility was projected by Waste Management representatives to use approximately 850,000 cubic yards of air space per year. The same in-place density of 1,200 pounds per cubic yard is assumed for this site. Waste Management representatives indicated approximately 10 to 12 percent of waste entering this site originates in Waukesha County. Based upon the annual use of 850,000 cubic yards per year, with an in-place density of 1,200 pounds per cubic yard and a range of 10 to 12 percent from Waukesha County, this equates to a range of 51,000 to 61,200 tons per year from Waukesha County.

As noted, the facility has a leachate collection system installed consisting of both gravity and vertical extraction. There is a 5-foot clay liner underneath the current Phase IV fill area. A 7-foot clay liner is required between the previously filled area and the new fill area as they deposit waste over the existing filled area to reach final elevation. The original "South 40" had a 4-foot liner installed.

There appears to be significant expansion potential on property already owned by Waste Management at this general location. As noted, the current permitted space is projected to last approximately five more years. Although not directly indicated by Waste Management, it would appear that their ownership of approximately 600 acres in the area with only 108 being permitted could lead to several tens of years of landfill capacity at the general location. As noted previously, Waste Management's policy is to develop expansion areas five to seven years prior to closure of the existing site. Waste Management stated that they are in the planning stages for additional capacity at this location but could not provide additional information at this time.

This complex also includes a landfill gas recovery and electrical generation facility; the truck base for operations for the southern region; a tire shredding facility that makes tire-derived fuel (TDF) from tires in the greater Milwaukee area; and a yard waste processing area. The site had a materials recycling facility (MRF), which has been converted for truck operations for the transfer stations. Current plans are to convert back to a commingled MRF within a year.

Current tip fees at this location also depend on the type of waste and type of delivery vehicle. The average was indicated to be approximately \$30 per ton, with volume rates available. Projected disposal costs were anticipated to increase at 5 to 10 percent per year.

(3) Muskego Landfill

Waste Management also owns the former Muskego Landfill located in Waukesha County to the west of the Metro Landfill. The "Old Muskego Landfill" has been closed and was indicated by Mr. Otter to be a Superfund Site. Waste Management has a permit for an expansion at this location, calling the facility the "Stone Ridge Landfill." This facility is permitted for 1.4 million cubic yards of air space. However, it was noted by Waste Management representatives that they have no present intention to operate this site due to its limited total air space and current project economics.

b. Superior Environmental Services, Inc.

Superior Environmental Services, Inc. (Superior) is a fairly new regional solid waste management and environmental services company serving the southeast Wisconsin area and areas to the north and west of the greater Milwaukee area. Superior was formed by consolidating a group of companies that previously were independently owned and operated. In solid waste management, Superior provides services in residential and commercial collection, landfills, recycling collection and processing, and related solid waste management activities. Superior's landfills are highlighted in this subsection.

(1) Hechimovich Landfill

The Hechimovich Landfill is located in Dodge County, east of Horicon. The information regarding the Hechimovich Landfill and other Superior activities was obtained via conversations with Robert Glebs, the President of Superior, a discussion with Russ Kinney from Expert Disposal, a company within the Superior group, and from Todd Watermolen, Superior Director of Engineering.

The Superior Group owns approximately 600-plus acres, with 55 acres permitted for landfill. Expansion plans for an additional 15 years are preliminary. There is no documentation at this time, but the site has potential for expansion. The Hechimovich Landfill has an estimated capacity remaining of 2.5 million cubic yards of air space. The site handles approximately 900 to 1,000 tons per day. Approximately 50,000 to 80,000 tons per year was estimated to originate from Waukesha County. The site also receives wastes from the West Bend, Port Washington, and Shebogyan areas. The landfill currently has a 5-foot clay liner with a new composite liner consisting of 4 feet of clay and 60 mil HDPE geomembrane under construction. Leachate is collected in a drainage layer on the liner and hauled to the Horicon Waste Water Treatment Plant. An active gas control system is partially installed and is projected to be operational in 1994.

Tip fees are \$25 per ton, with an estimated rate of increase at 5 to 10 percent per year, or approximately 8 percent per year.

(2) Valley Sanitation Fort Atkinson Landfill

The Fort Atkinson Landfill is operated on 30 acres of an approximately 600 to 700 acre site in Jefferson County. The landfill receives approximately 200 tons of solid waste per day, with an average of 50 to 60 tons per day hauled to the site from Waukesha County. The site has approximately 1 million cubic yards of air space remaining in the permitted area. An expansion permit is in process for an additional 2.5 million cubic yards of air space, with a projected airspace expansion potential of 5 to 7 million cubic yards. This landfill also receives wastes from the Walworth and Jefferson County areas as well as the Janesville/Beloit area.

The landfill has a 5-foot clay liner, with a leachate collection system. Leachate is hauled to the Fort Atkinson Waste Water Treatment Plant for final treatment. An active gas control system is installed with gas flared on-site.

Tip fees are \$24 per ton, with future increases estimated at 5 to 10 percent per year, or approximately 8 percent.

(3) Emerald Park Landfill

The Emerald Park Landfill was recently acquired by Superior Environmental Services, Inc.

The WDNR has approved the feasibility study for this site and the Plan of Operation has been submitted to the WDNR for their consideration. The present plans are to begin construction in the fall of 1993 and to begin receiving solid waste in late fall of 1994 or spring 1995. The initial site consists of 35 acres, with approximately 3.6 million cubic yards of capacity. Significant expansion potential (approximately 15 million cubic yards) is reported to exist on a total of 350 acres of land controlled by this development company. The land is all contiguous to the Emerald Park site. When the Emerald Park Landfill is operating, all the Waukesha County waste handled by Superior will be brought to this facility.

The landfill will have a composite liner with 5 feet of clay and a 60 mil HDPE geomembrane. Leachate will be collected and either hauled or directly connected to the Milwaukee Metropolitan Sewage District. An active gas extraction system and a flare will be installed.

The tip fee is projected to be \$32 per ton, with annual increases in the range of 8 to 10 percent per year.

Superior has other landfill facilities within the group, but they would not be receiving wastes from the Waukesha County area. The plans for Superior may be summarized by an intention to add additional landfill capacity as it is required, and the President sees no long-term capacity concerns for landfill space within the southeast Wisconsin region.

c. Browning-Ferris Industries (BFI) -- Troy Area Landfill

BFI owns and operates the Troy Area Landfill located adjacent to East Troy in Walworth County. Information is based upon a discussion with Ralph Dach, the district manager, for BFI landfills.

The Troy Area Landfill opened in October 1987. The landfill was developed on an approximately 52-acre footprint in four different cells. Originally the landfill had under 5 million cubic yards of air space (including landfill cover material). Approximately 2 million cubic yards of air space remain. At the beginning of 1993, the landfill had approximately three years of capacity remaining.

BFI owns approximately 220 acres at the site and is in the process of seeking an expansion for an additional 60 acres of fill area and 6.3 million cubic feet of air space for solid wastes. The expansion is projected to last for 10 to 14 years.

The existing landfill and the proposed new landfill are the only solid waste management services provided at the site. There are no yard wastes or other solid waste handling facilities.

Last year the landfill received a record of over 1 million cubic yards of solid waste. According to the Annual Report to the DNR, the tonnage for 1992 exceeded 350,000 tons. The 1991 waste tonnage was approximately 260,000 tons. It was noted that the increase was primarily from new accounts in the Walworth and Waukesha Counties areas. The landfill service area includes the following counties: Milwaukee, Waukesha, Ozaukee, Walworth, Racine, Kenosha, and Washington. BFI owns and operates five transfer stations in the Milwaukee area that haul waste to this facility. Mr. Dach could not provide an estimate of the tonnage received from Waukesha County alone.

The liner of the existing landfill is 4 foot of clay. The expansion area will have a composite liner meeting DNR requirements, with a 60 mil HDPE liner and either 4 or 5 foot of clay. The leachate collection system is installed as part of the overall landfill liner design, and leachate is hauled to the City of Waukesha Waste Water Treatment Plant. The existing landfill has 22 groundwater monitoring wells, with the expansion stated to have 40 wells for the entire area. The existing landfill also has an active gas extraction system, and this will be expanded as the existing landfill is closed and a new one installed.

Currently tipping fees are \$24 per ton. It was estimated by Mr. Dach that landfill costs will increase 5 to 10 percent per year over the next five years. Mr. Dach estimated that in 15 years, the tipping fees would probably triple.

d. Advance Service -- Deer Track Park Landfill

The Deer Track Park Landfill, Inc. was sited in August of 1991. It has a design capacity of approximately 3.2 million cubic yards, with an anticipated site life of 12 years. It is located at the corner of Highway 26 and I-94, approximately midway between Milwaukee and Madison. Information regarding this landfill was provided by Mr. Jan Rickerman, the general manager for the landfill.

The landfill has 44 acres of permitted foot print and is being developed in seven phases. They started construction in 1991 and filling has begun in the first phase, with construction now underway in the second phase. A previous landfill (Central Sanitary Landfill), located directly to the north, is now closed. Consideration is being given to moving this landfill, which is relatively small (440,000 cubic yards) into phases six and seven of Deer Track Park Landfill.

The Deer Track Park Landfill services a wide area, including the Waukesha County area. It was estimated that approximately 1,300 to 1,500 cubic yards of waste is received from the Waukesha County area weekly. Based upon an average of 700 pounds per cubic yard received in collection vehicles, this equals approximately 455 to 525 tons per week from Waukesha County.

The landfill design meets federal Subtitle D regulations, including a composite liner with a 60 mil HDPE synthetic liner and 5 foot of compacted clay. A leachate collection drainage layer and piping is installed leading to leachate storage tanks. The leachate is pumped into tanker trucks and hauled to a public waste water treatment plant for treatment. Twenty-eight wells have been installed for groundwater monitoring and a gas control system will be installed as part of closure. The facility design also includes a composite cap, its own weather monitoring station, and dust monitoring equipment.

There is no yard waste processing facility at the site. Costs at this time are \$8.50 per cubic yard, or \$32 per ton.

It was indicated that there is expansion potential at the site, with another 50 acres yielding approximately another 15 years of capacity at current annual waste loading rates. Projected disposal costs were anticipated to increase at 15 percent per year, the same as costs have increased historically.

e. Summary of Landfill Facilities and Capacity

Table III-1 provides a summary of some of the key considerations common to each landfill that is currently or likely to receive Waukesha County solid wastes. There are eight landfills summarized in Table III-1. Six of the landfills are currently active, with an additional landfill (Emerald Park) expected to be operational in 1994.

In reviewing the information in Table III-1, it is apparent that the site life for several of the landfills is approximately ten years at current loading rates. Each of the landfills indicated expansion potential already identified for another 10 to 15 years. In addition, often times these landfill operators already own additional land at the same location for expansion beyond an additional 15-year period. It appears that these landfills will have capacity for the quantities of waste landfilled in the greater Milwaukee area for at least 20 and likely in excess of 30 years at the current loading rates.

There are some factors that will affect the loading rates in the future aside from a general shift of materials from one landfill to another. The State's material bans are likely to have an effect of reducing the quantity of waste entering landfills. Depending on the overall success, the bans could divert 20 to 30 percent of the wastes and, therefore, increase landfill life by approximately 25 percent.

| | Parkview/Orchard Ridge | Store | Ctone Didne Landfill | Iller I delineation |
|------------------------------------|--|--|---|--|
| Owner | Waste Management | Waste Management | Waste Management | Superior |
| Location | Menomonee Falls | Franklin | Muskego | Dodge County East of Horicon |
| Annual waste loading | ≂ 1,000,000 CY | ≈ 850,000 CY | Not in use | ≈ 250,000 tons (900 to 1,000/day) |
| Annual Waukesha County Tonnage | ≈ 120,000 to 150,000 | ≈ 50,000 to 60,000 | Not in use | ≈ 50,000 to 80,000 |
| Remaining capacity (cubic yards) | × 10,000,000 | ≈ 4,500,000 | ≈ 1,400,000 | = 2,500,000 |
| Remaining site life | 10 years | 5 years | Not in use | ≈ 9 years |
| Expansion Potential | Estimated 20 plus years | Estimated by GBB to be several "tens" of years | None indicated | 600 acres owned, with 55 permitted. Expansion potential indicated starting on 15-year expansion. |
| Current tipping fee (per ton) | ≈ \$30/ton | ≈ \$30/ton | Not in use | \$25/ton |
| Facility Characteristics: | | | | |
| a. Liner | Parkview triple liner system, including 3 compacted clay. Orchard Ridge will have composite liner. | Presently 5 to 7 feet of clay | Must meet all applicable requirements if used. | Present 5' clay. New composite liner under construction 4' clay with 60 mil. HDPE geomembrane |
| b. Leachate collection system | Drainage layers in liner and on-site pretreatment. | Gravity and vertical extraction. Sent to Milwaukee Metropolitan Sewerage District. | Must meet all applicable requirements if used. | Drainage layers to tanks. Haul to Horicon Waste Water Treatment Plant |
| c. Groundwater monitoring wells | 64 monitoring wells at Parkview and 30 + additional at Orchard Ridge. | 47 monitoring points plus leachate head wells. | Must meet all applicable requirements if used. | ≈ 35 wells |
| d. Gas collection system | Gas extraction planned after closure. Active gas extraction currently at Omega Hills. | Active gas extraction with energy recovery. | Must meet all applicable requirements if used. | Active gas control being installed. |
| e. Proof of financial | Certificate of Insurance | Certificate of Insurance | Must meet all applicable requirements if used. | Combined cash escrow and letter of credit. |
| | | | | |

Table III-1. Regional Landfills With sposal Capacity for Waukesha County (Continued)

Other situations could tend to counteract this landfill life increase. Continued population growth and economic activity will lead to a growth in waste generation. In addition, the potential exists that wastes could be brought to these landfills from outside the southeast Wisconsin area. As long as significant quantities of wastes are not brought in, landfill capacity is projected to meet the needs of the Waukesha County area.

The tipping fees at the landfills currently range from approximately \$24 per ton to \$32 per ton. The landfill owners estimated that escalation of these fees would be between 5 to 10 percent per year. With the number of active landfills (seven) and the number of different owners (four), there appears to be adequate competition to maintain landfill rates of a competitive nature in the area.

The landfills all appear to meet current regulatory requirements for key environmental considerations such as liner design, leachate collection and treatment, groundwater monitoring, and landfill gas control. The Wisconsin DNR's regulatory program for landfills is one of the better and more up-to-date programs in the United States.

Beyond design and monitoring features, one of the key current requirements is for the landfill operator to provide "proof of financial responsibility." This requires operators to establish funds during years of operation for care of the landfill after closure. This requirement was not in place for landfills operating in the 1970s. This requirement is designed to reduce or eliminate the financial liability for landfills after they close.

In summary, at this time there is sufficient landfill capacity meeting current key environmental controls in the Waukesha County area to last for the 20-year planning horizon covered by this solid waste management plan.

2. Recycling

In order to determine recyclable processing capacity and future plans, representative businesses known to be accepting recyclables generated in Waukesha County were interviewed. This did not include all businesses in the metropolitan area, but rather included the major processors in order to determine approximate capacity.

a. Mobile Shredding Services

Mobile Shredding Services, Inc. owned by Bob La Courciere, is a private recycling facility located at 12132 West Capitol Drive in Wauwatosa, Wisconsin. Mobile Shredding Services is located just off Highway 45 in Wauwatosa in Milwaukee County.

Mobile Shredding Services recycle materials primarily from the commercial or industrial sector. Mobile Shredding Services also offers a confidential document shredding service for their commercial and industrial clients. The document security service blends well with office paper recycling services.

Mobile Shredding Services assists their commercial accounts in establishing an office recycling program. This includes everything from providing collection containers and training

6. Landfill

a. Need Statements

The following items establish the need for County involvement in landfill activities:

| | Landfill | |
|---|---|--|
| Consideration | Needs Statement | |
| Legal Issues | Land disposal of solid waste is the lowest method on the waste management hierarchy included in the County Solid Waste Management Plan. | |
| Economic Issues | • Landfill costs as of March 1994 range from \$24 to \$32 per ton. | |
| Environmental Issues/Community Health | • The private sector has established adequate capacity projected be available for the 20-year solid waste management planning period (assuming no large influx of waste from outside of the region). The sanitary landfills in the region are in substantial compliance with the state-of-the-art landfill design requirement | |
| Public Opinion ¹ | • There is significant public opinion regarding the concern for groundwater contamination, use of prime agricultural land for landfills, and the waste of resources associated with land disposal of solid waste. | |
| Political Issues | • There is a significant concern for the perceived uncontrolled nature of some C&D waste landfills in particular uncontrolled cleanfills in more rural areas of the County. | |

¹Over 100 landfill sites have been closed in Waukesha County since the early 1980s. Many of these sites have the potential to cause degradation of the groundwater. One landfill, in the Muskego area, has been classified by the U.S.E.P.A. as a superfund site and is currently undergoing remediation.

b. Specific Landfill Policies and Objectives

Waukesha County understands the need for a properly operated state-of-the-art landfill as an integral part of a comprehensive, environmentally sound, solid waste management system. Waukesha County supports the continued private sector involvement in the design and operation of state-of-the-art sanitary landfills within the greater Milwaukee area.

It is the objective of Waukesha County to assure that there is adequate capacity in the state-of-the-art landfills for County wastes for the full 20-year solid waste planning period.

It is the policy of Waukesha County to monitor all land disposal activities taking place in the County to insure they are conducted in an environmentally sound manner.

c. Impact of Landfill in Meeting Percentage Goals

The entire purpose of the percentage goals is to establish targets to reduce the amount of material going to landfills. Therefore, the percentage goals for landfills are determined only by the remaining wastes after the options higher on the State's hierarchy. The landfill monitoring programs included in the implementation plan and recommendations are important to meet the policy statements and to sustain the life-support capacity of the total environment and promote the public health and safety.

d. Specific Actions and Implementation Schedule

Table VII-7 presents the specific actions and timing for landfill programs to be undertaken by Waukesha County.

Table VII-7. Specific Actions and Schedule for Landfill Programs

| | Specific Action | Time- frame |
|----|---|------------------|
| 1. | Monitor sanitary landfill capacity and costs in the region | Ongoing |
| 2. | Manage the requirements of the existing County landfill siting ordinance | Ongoing |
| 3. | Monitor activities of C&D landfills | 1995 and ongoing |
| 4. | Prepare a study on C&D waste flow and disposal | 1995 |
| 5. | Monitor public record information on area sanitary landfills | 1995 and ongoing |
| 6. | Consider contracting for landfill capacity on behalf of the participating communities | 1997 |
| 7. | Review of Actions/Program Progress | Annually |
| 8. | Update Action Plan | 1997 |